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| 1. Record Nr. | UNINA9911019715903321 |
| Autore | Ohser Joachim |
| Titolo | 3D images of materials structures : processing and analysis // Joachim Ohser and Katja Schladitz |
| Pubbl/distr/stampa | Weinheim, : Wiley-VCH, c2009 |
| ISBN | 9786612302541 9781282302549 128230254X 9783527628308 3527628304 9783527628315 3527628312 |
| Descrizione fisica | 1 online resource (343 p.) |
| Altri autori (Persone) | SchladitzKatja |
| Disciplina | 541.22 620.1129902856693 |
| Soggetti | Microstructure Materials science Three-dimensional imaging Image processing - Digital techniques Image analysis |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Note generali | Description based upon print version of record. |
| Nota di bibliografia | Includes bibliographical references and index. |
| Nota di contenuto | 3D Images of Materials Structures; Foreword; Contents; Preface; Conventions and Notation; 1 Introduction; 2 Preliminaries; 2.1 General Notation; 2.1.1 Points and Sets in Euclidean Spaces; 2.1.2 Curvatures; 2.1.3 Measures and Measurable Spaces; 2.2 Characteristics of Sets; 2.2.1 The Euler Number and the Integral of Gaussian Curvature; 2.2.2 The Mean Width and the Integral of the Mean Curvature; 2.2.3 Intrinsic Volumes of Convex Bodies; 2.2.4 Additive Extensions on the Convex Ring; 2.2.5 The Principal Kinematic Formulae of Integral Geometry; 2.3 Random Sets; 2.3.1 Definition of Random Sets 2.3.2 Characteristics of Random Closed Sets 2.3.3 Random Point Fields; 2.3.4 Random Tessellations; 2.4 Fourier Analysis; 2.4.1 Measurable |

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Sommario/riassunto

Taking and analyzing images of materials' microstructures is essential
 for quality control, choice and design of all kind of products. Today,
 the standard method still is to analyze 2D microscopy images. But,
 insight into the 3D geometry of the microstructure of materials and
 measuring its characteristics become more and more prerequisites in
 order to choose and design advanced materials according to desired
 product properties. This first book on processing and analysis of 3D
 images of materials structures describes how to develop and apply
 efficient and versatile tools for geometric analys
